

## A New *Megaleuctra* from California

(Plecoptera: Leuctridae)

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According to Baumann (1973) there are five extant species of the genus *Megaleuctra*, all from North America. Until this time, the genus was not known to occur in California. This paper describes a sixth species, *Megaleuctra sierra*, taken on a tributary of the North Fork of the American River in Placer County, California, at an elevation of approximately 3500 feet.

Shirrtail Creek is a small stream running through a steep-sided, heavily wooded canyon in the upper zone of the yellow pine forest. The specimen was taken from the foliage of the dominant streamside shrub *Cornus sessilis* Torrey ex Durand.

Baumann (1973) suggests that *Megaleuctra* is stenothermic in character and part of the fauna of springlike areas. A few spring seepages are present in the immediate vicinity of the capture area; it is not likely that this specimen originated in Shirrtail Creek itself, as the benthos of the stream was heavily sampled by me the preceding year.

### ***Megaleuctra sierra*, new species** (Figs. 1-3)

Holotype female.—Macropterous. Length of forewings 15 mm; length of body 14 mm, excluding extended subgenital plate. Overall color yellowish brown. Body sparsely covered with fine hairs, most abundant on abdominal terminalia. Ocelli approximately equally spaced, those posterior nearer to eyes than to each other. Palps dark brown. Antennae dark brown, long, over 40 segments (tips broken off). Pronotum wider than long, posterior corners cut off forming two small flat sides; pronotum brown, darkest either side of midline, becoming yellowish brown at margins. Raised portions of remainder of thorax heavily sclerotized, dark brown. Legs darkest at joints. Second tarsal segment short, first segment nearly as long as second and third together; first and second segments yellow, third dark brown. Wings dusky yellow, darkest at tips, with heavy brown veins. Pronounced dark areas in the center and distal portions of the costal space beyond the cord and near cubito-anal crossvein in front wing. Rs with four branches, and sixth anal vein in hind wing paler than other veins and not reaching wing margin (Fig. 1). Abdomen pale brown dorsally, with a small oval sclerotized spot on either side of the midline on anterior margin of segments 1-9. Abdomen more heavily sclerotized on venter, dark yellowish brown; small paired depressions, one either side of midline near center of segments 1-7 and at base of subgenital plate (Fig. 2). subgenital plate (eighth sternite) with thin lateral flange at base, then drawn out past tip of abdomen to a length of approximately 1.5 mm, and rounded at apical extremity (Figs. 2, 3); color mostly dark brown. Ninth tergite formed into a dark brown ovipositor-like structure and lying within the evenly

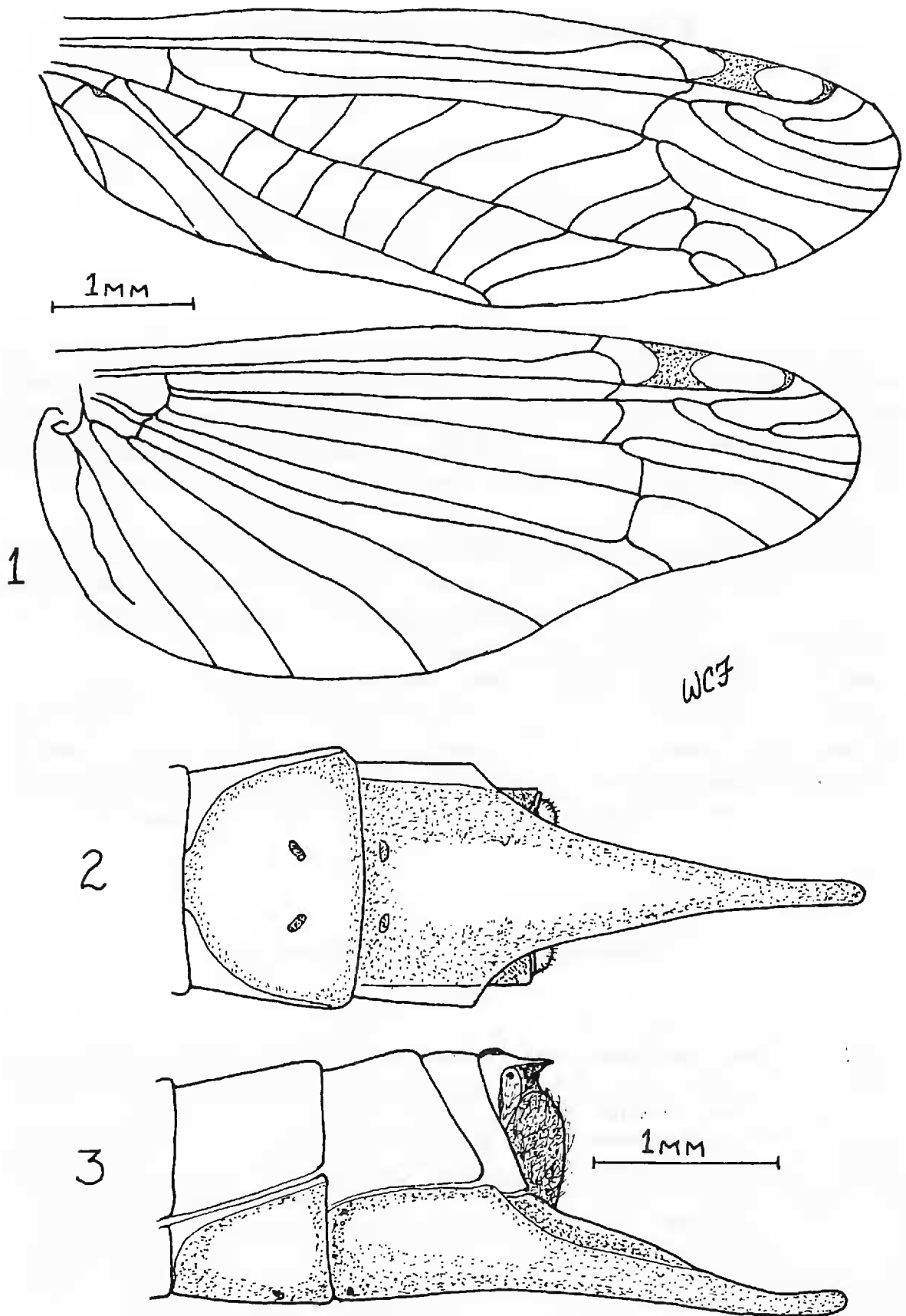


Fig. 1-3. *Megaleuctra sierra* Fields. Fig. 1. wings. Fig. 2. Female terminalia, ventral view. Fig. 3. Female terminalia, lateral view.

curved plate and extending three-fourths its length. Tenth tergite with low, dark protuberances above the inconspicuous cerci, one on either side of a median depression which extends forward to include the posterior portion of the ninth tergite; central portion of tenth tergite extends posteriorly as a triangular shelf (Fig. 3).

Holotype, female, Shirrtail Creek, western edge of Tahoe National Forest, Placer County, California. VI-9-1974. W.C. Fields, Jr. (authors' collection).

*M. sierra* can be separated from the other known species in the genus not only by geographic location but also by anatomical differences exhibited by the female terminalia and wing venation. *M. sierra* was taken in central California, over 300 miles south of other collections of the genus. The subgenital plate is similar to that of *M. spectabilis* Neave (1934) and *M. complicata* Claassen (Zwick, 1973), but is both longer and narrower. Claassen (1937) equated *M. spectabilis* Neave with *M. stigmata* Banks 1900. This has not been generally accepted as noted by Frison (1942), and W.E. Ricker (personal communication)<sup>1</sup>. I have been unable to locate any description of the female terminalia of *M. stigmata*. If it should prove to be the same as that of *M. spectabilis*, it will still be shorter than that of *M. sierra*. The subgenital plate of *M. sierra* is much shorter than that of *M. williamsae* Hanson (Baumann, 1973). The females of *M. flinti* Baumann (1973) and *M. kincaidi* Frison (1942) are unknown.

Considerable variation in wing venation exists in *Megaleuctra*, particularly as regards the number of branches in the radial sector; in *M. sierra*, there are four in both the front and hind wings. There are two each in *M. spectabilis* and *M. williamsae* Hanson (1941), and three in *M. complicata* Claassen (Frison, 1942). In addition, each of the first two mentioned has in the hind wing a complete sixth anal vein, whereas the new species does not. Dr. W.E. Ricker (personal communication) is in possession of a male paratype of *M. kincaidi* which has two and three branches of Rs in the front wings, two and four in the hind wings, and an incomplete sixth anal vein. Claassen (1937) mentions only that the wing venation of *M. stigmata* is similar to that of *M. spectabilis*. I have been unable to find in the literature any illustrations of the hind wings of *M. complicata* as well as any illustrations of the fore and hind wings of *M. flinti*. Dr. Ricker has informed me that the distribution of pigment in the outer costal cell of the wing is a character of potential importance, stating that the only other species with a similar pigment distribution to that of *M. sierra* (pigment not reaching the end of the cell) is *M. kincaidi*.

#### Acknowledgements

I am very grateful to Dr. Ricker for his careful study of my specimen and for encouraging me to describe it under the proposed name even though it may later prove to be the as yet undescribed female of *M. kincaidi*.

<sup>1</sup>Letter from Dr. W.E. Ricker, Pacific Biological Station, Nanaimo, B.C., Feb. 14, 1977.

## Literature Cited

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BOOK REVIEW

**Key for the field identification of brassica, potato and sugar beet aphids with photographic illustrations.** Prior, R. N. B. and J. R. Morrison. 1977, Ministry of Agriculture, Fisheries and Food, Plant Pathology Laboratory, Hatching Green, Hertfordshire. 26 pp. £3.50 (by post £ 3.70) Available from Ministry of Agriculture, Fisheries and Food (Publications), Tolcarne Drive, Pinner, Middlesex, HA5 2DT.

This book, along with the first one on cereal aphids, (£ 2.10 and £ 2.30), should be in the hands of all field entomologists involved in pest management of agricultural crops. The books are applicable on a world-wide basis, as aphids destructive to agricultural crops are cosmopolitan in distribution. Furthermore, Messrs. Prior and Morrison have produced books that can be used with facility, through their superb photographs and through their mastery in handling key characters.

The key contains all the pertinent characters pertaining to each species. The color plates exhibit excellent detail and color reproduction, and the chief distinguishing characters are pointed out clearly in corresponding diagrams. The nomenclature is current.

It is hoped that there will be other books, including one on orchard crops. — TOKUWO KONO, *Insect Taxonomy Laboratory, California Department of Food and Agriculture, Sacramento, California.*